

Civil Engineering Practice

CGN 4160 Section 094A

Class Periods: T,R | Period 5 - 6 (11:45 AM - 1:00 PM)

Location: Online

Academic Term: Fall 2020

Instructor:

Steven Laux, P.E., ENV SP

Steven.laux@essie.ufl.edu

Office Hours: M, W 9 – 11am

Teaching Assistant/Peer Mentor/Supervised Teaching Student:

Please contact through the Canvas website

- Eric Lastres, Schedule by email: elastres@ufl.edu

Course Description

Fundamentals of civil engineering professional practice: project management, construction delivery processes, business concepts, public policy, administration, and leadership. Credits: 3

Course Pre-Requisites / Co-Requisites

EGM2511 (Statics) or equivalent. Coreq: CGN 2328 (Technical Drawing).

Course Objectives

- 1-1: Students will be able to recognize and explain the role of the engineering and construction industry in our society and the various roles of individuals and organizations involved in the design, construction, and activation of civil engineering projects
- 1-2: Students will be able to recognize and compare the basic features of the various project delivery methods and be able to select the appropriate delivery method for a situation
- 2-1: Students will be able to apply soft skills necessary to collaborate in a team environment
- 2-2: Students will be able to produce and execute a group report and presentation
- 3-1: Students will recognize the basic components of the standard design-bid-build construction contract
- 3-2: Students will understand the rolls of various participants in the construction contract
- 3-3: Students will know where to look in a standard contract for key information
- 3-4: Students will be able to use the contract to resolve questions and disputes
- 3-5: Students will recognize features of qualifications-based selection
- 4-1: Students will be able to recognize basic features of construction plans
- 4-2: Students will be able to visualize the intended work using construction plans
- 4-3: Students will be able to determine construction quantities using construction plans
- 4-4: Students will be able to interpret construction drawings for information necessary to construct projects
- 5-1: Students will be able to recognize and differentiate between the different types and stages of construction cost estimates
- 5-2: Students will be able to recognize and explain the basic features of a construction cost estimate
- 5-3: Students will be able to produce a basic construction cost estimate for a civil engineering project
- 6-1: Students will be able to explain the basic concepts and functions of critical path method (CPM) scheduling
- 6-2: Students will be able to produce a CPM schedule for a civil engineering design and construction project using manual methods
- 6-3: Students will be able to produce a CPM schedule for a civil engineering design and construction project using commercially available software
- 7-1: Students will be able to explain why licensing of engineers is required and the process for obtaining a license

- 7-2: Students will be able to explain the basic responsibilities and restrictions placed on professional engineers by their professional society and licensing board
- 7-3: Students will be able to interpret these requirements and restrictions as they apply to real life situations

Materials and Supply Fees

None

Professional Component (ABET):

This course is a required class in the BS civil engineering curriculum.

Relation to Program Outcomes (ABET):

Outcome	Coverage*
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors	
3. An ability to communicate effectively with a range of audiences	High
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts	Medium
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives	High
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies	High

*Coverage is given as high, medium, or low. An empty box indicates that this outcome is not covered or assessed in the course.

Required Textbooks and Software

- Materials provided by instructor
- MS Project (UF Apps)

Course Schedule

Class #	Date		Topic	Presentations
1	Tue, Sep 1, 2020		E&C Industry	
2	Thu, Sep 3, 2020		Project Teams	
3	Tue, Sep 8, 2020	Guest Lecture: Ryan Hagaman	Project Delivery Methods	
4	Thu, Sep 10, 2020		Project Delivery Methods	
5	Tue, Sep 15, 2020		Teamwork	
6	Thu, Sep 17, 2020	Guest Lecture: Kelly Roberts	How to Prepare & Deliver Team Presentations	
7	Tue, Sep 22, 2020		Selecting the Design Professional	
8	Thu, Sep 24, 2020		Construction Contracts	
9	Tue, Sep 29, 2020	Guest Lecture: Rick Ferreira	Business of Engineering	
10	Thu, Oct 1, 2020		Construction Contracts	
11	Tue, Oct 6, 2020	Guest Lecture: Rich Koller	Specifications	
12	Thu, Oct 8, 2020		Construction Contracts	
13	Tue, Oct 13, 2020		Plans Reading	
14	Thu, Oct 15, 2020	Guest Speaker TBA		
15	Tue, Oct 20, 2020		Plans Reading	Teams 1 & 2
16	Thu, Oct 22, 2020		Plans Reading	Teams 3 & 4
17	Tue, Oct 27, 2020		Plans Reading	Teams 5 & 6
18	Thu, Oct 29, 2020		Cost Estimating	Teams 7 & 8
19	Tue, Nov 3, 2020	Guest Speaker: I-4 Ultimate		
20	Thu, Nov 5, 2020		Cost Estimating	Teams 9 & 10
21	Tue, Nov 10, 2020		Project Work	Teams 11 & 12
22	Thu, Nov 12, 2020		Scheduling	Teams 13 & 14
23	Tue, Nov 17, 2020		Scheduling	Teams 15 & 16
24	Thu, Nov 19, 2020	Guest Interview: Ryan Barry		
25	Tue, Nov 24, 2020		Project Work	Teams 17 & 18
	Thu, Nov 26, 2020	Thanksgiving - No Class Meeting		
26	Tue, Dec 1, 2020	Guest Lecture: Bob Edmunds		
27	Thu, Dec 3, 2020	Project Work	Project Work	Teams 19 & 20
28	Tue, Dec 8, 2020	Project Work	Project Work	

Online Course Recording

Our class sessions may be audio visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

Attendance Policy, Class Expectations, and Make-Up Policy

Live online classes will be held using Canvas Zoom web conferencing. These classes are held T, R 11:45am to 1pm and will be used for discussion, group activities and guest lectures. Attendance will be recorded and graded.

Evaluation of Grades

Assignment	Percentage of Final Grade
Quizzes	25%
Class Attendance	20%
Homework Assignments	25%
Group Projects	15%
Presentation	15%
	100%

Grading Policy

Percent	Grade	Grade Points
95 - 100	A	4.00
90 - <95	A-	3.67
87 - <90	B+	3.33
84 - <87	B	3.00
80 - <84	B-	2.67
77 - <80	C+	2.33
74 - <77	C	2.00
70 - <74	C-	1.67
67 - <70	D+	1.33
64 - <67	D	1.00
60 - <64	D-	0.67
<60	E	0.00

More information on UF grading policy may be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Students Requiring Accommodations

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Course Evaluation

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

University Honesty Policy

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (<https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Commitment to a Safe and Inclusive Learning Environment

The Herbert Wertheim College of Engineering values broad diversity within our community and is committed to individual and group empowerment, inclusion, and the elimination of discrimination. It is expected that every person in this class will treat one another with dignity and respect regardless of gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture.

If you feel like your performance in class is being impacted by discrimination or harassment of any kind, please contact your instructor or any of the following:

- Your academic advisor or Graduate Program Coordinator
- Robin Bielling, Director of Human Resources, 352-392-0903, rbielling@eng.ufl.edu
- Curtis Taylor, Associate Dean of Student Affairs, 352-392-2177, taylor@eng.ufl.edu
- Toshikazu Nishida, Associate Dean of Academic Affairs, 352-392-0943, nishida@eng.ufl.edu

Software Use

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <https://registrar.ufl.edu/ferpa.html>

Campus Resources:

Health and Wellness

U Matter, We Care:

Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc>, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Discrimination, Harassment, Assault, or Violence

If you or a friend has been subjected to sexual discrimination, sexual harassment, sexual assault, or violence contact the **Office of Title IX Compliance**, located at Yon Hall Room 427, 1908 Stadium Road, (352) 273-1094, title-ix@ufl.edu

Sexual Assault Recovery Services (SARS)

Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or <http://www.police.ufl.edu/>.

Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu.
<https://lss.at.ufl.edu/help.shtml>.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling. <https://www.crc.ufl.edu/>.

Library Support, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.
<https://teachingcenter.ufl.edu/>.

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers.
<https://writing.ufl.edu/writing-studio/>.

Student Complaints Campus: <https://care.dso.ufl.edu>.

On-Line Students Complaints: <http://www.distance.ufl.edu/student-complaint-process>.